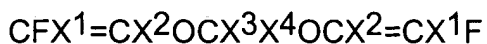
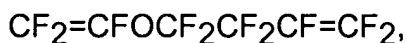


**IN THE CLAIMS:**

1-17. (Canceled)

18. (New) Thermoprocessable tetrafluoroethylene (TFE) copolymers obtained by polymerization of TFE with one or more monomers containing at least one unsaturation of ethylene type selected from the following:

- C<sub>3</sub>-C<sub>8</sub> perfluoroolefins;
- C<sub>2</sub>-C<sub>8</sub> hydrogenated fluoroolefins, selected from vinyl fluoride (VF), vinylidene fluoride (VDF), tri-fluoroethylene, hexafluoroisobutene and perfluoroalkylethylene CH<sub>2</sub>=CH-R<sub>f</sub>, wherein R<sub>f</sub> is a C<sub>1</sub>-C<sub>6</sub> perfluoroalkyl;
- C<sub>2</sub>-C<sub>8</sub> chloro- and/or bromo- and/or iodo-fluoroolefins;
- (per) fluoroalkylvinylethers (PAVE) CF<sub>2</sub>=CFOR<sub>f</sub>, wherein R<sub>f</sub> is a C<sub>1</sub>-C<sub>6</sub> (per) fluoroalkyl;
- (per) fluoro-oxyalkylvinylethers CF<sub>2</sub>=CFOX, wherein X is: a C<sub>1</sub>-C<sub>12</sub> alkyl, a C<sub>1</sub>-C<sub>12</sub> oxyalkyl, or a C<sub>1</sub>-C<sub>12</sub> (per) - fluoro oxyalkyl having one or more ether groups;
- fluorodioxoles;
- non conjugated dienes of the type:



wherein X<sup>1</sup> and X<sup>2</sup>, equal to or different from each other, are F, Cl or

H; X<sup>3</sup> and X<sup>4</sup>, equal to or different from each other, are F or CF<sub>3</sub>,

which during the polymerization cyclopolymerize; and

- fluorovinylethers (MOVE) of general formula:

$CFX_{A1}=CX_{A1}OCF_2OR_{A1}$  (A-I) wherein  $R_{A1}$  is a  $C_2$ - $C_6$  linear, branched or  $C_5$ - $C_6$  cyclic (per)fluoroalkyl group, or a  $C_2$ - $C_6$  linear, branched (per) fluoro oxyalkyl group, containing from one to three oxygen atoms; when  $R_{A1}$  is a fluoroalkyl or a fluoroalkoxy group as above it can contain from 1 to 2 atoms, equal or different, selected from the following: H, Cl, Br, I;  $X_{A1} = F, H$

wherein the thermoprocessable TFE copolymers contain an amount of extractable cations lower than 1 ppm and

wherein the thermoprocessable TFE copolymers have been purified by:

- a) transforming a polymer latex of thermoprocessable TFE copolymers, obtained by the polymerization in dispersion or aqueous emulsion, into gel form, under mechanical stirring, by addition of an acid electrolyte having pH values  $\leq 2$ ;
- b) washing of the polymer gel with acid aqueous solutions or neutral aqueous solutions having pH from 1 to 7.

19. (New) The thermoprocessable TFE copolymers of claim 18, wherein the  $C_3$ - $C_8$  perfluoroolefin is hexafluoropropene (HFP).

20. (New) The thermoprocessable TFE copolymers of claim 18, wherein the  $C_2$ - $C_8$  chloro-fluoroolefin is chlorotrifluoroethylene (CTFE).

21. (New) The thermoprocessable TFE copolymers of claim 18, wherein the  $R_f$  of (per) fluoroalkylvinylethers (PAVE)  $CF_2=CFOR_f$  is  $CF_3$ ,  $C_2F_5$  or  $C_3F_7$ .
22. (New) The thermoprocessable TFE copolymers of claim 18, wherein the  $C_1$ - $C_{12}$  (per) - fluoro oxyalkyl having one or more ether groups of (per) fluoro-oxyalkylvinylether  $CF_2=CFOX$  is perfluoro-2-propoxy propyl.
23. (New) The thermoprocessable TFE copolymers of claim 18, wherein the fluorodioxoles are perfluorodioxoles.
24. (New) The thermoprocessable TFE copolymers of claim 18, wherein hydrogenated olefins are used in addition to the fluorinated comonomers.
25. (New) The thermoprocessable TFE copolymers of claim 18, wherein the comonomer amount in the copolymer is in the range of 1-18% by weight.
26. (New) The thermoprocessable TFE copolymers of claim 18, wherein the commoner amount in the polymer is in the range of 2-10% by weight.
27. (New) The thermoprocessable TFE copolymers of claim 18, wherein the one or more monomers containing at least one unsaturation of ethylene type is of general formula  $CFX_{AI}=CX_{AI}OCF_2OCF_3CF_2Y_{AI}$  (A-II), wherein  $Y_{AI} = F$  or  $OCF_3$ ;  $X_{AI} = F$  or H.
28. (New) The thermoprocessable TFE copolymers of claim 27, wherein the compounds of general formula  $CFX_{AI}=CX_{AI}OCF_2OCF_3CF_2Y_{AI}$  (A-II) are selected from (MOVE I)  $CF_3=CFOCF_2OCF_2CF_3$  (A-III) and (MOVE II)  $CF_2=CFOC-F_2OCF_2CF_2OCF_3$  (A-IV).

29. (New) The thermoprocessable TFE copolymers of claim 18, wherein the acid electrolyte has pH values in the range of 0.4-1.6.

30. (New) The thermoprocessable TFE copolymers of claim 18, wherein a drying step is carried out on the thermoprocessable polymer powder at a temperature of 230° to 280°C, and the thermoprocessable TFE copolymers contain an amount of extractable cations lower than 1 ppm and an amount of residual surfactants lower than about 10 ppm.

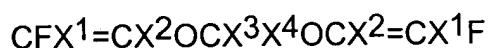
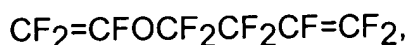
31. (New) The compounds of general formula:  $\text{CFX}_{\text{AI}}=\text{CX}_{\text{AI}}\text{OCF}_2\text{OCF}_3\text{CF}_2\text{Y}_{\text{AI}}$  (A-II), wherein  $\text{Y}_{\text{AI}} = \text{F}$  or  $\text{OCF}_3$ ;  $\text{X}_{\text{AI}} = \text{F}$  or  $\text{H}$ .

32. (New) The compounds of general formula of claim 31, selected from (MOVE I)  $\text{CF}_3=\text{CFOCF}_2\text{OCF}_2\text{CF}_3$  (A-III) and (MOVE II)  $\text{CF}_2=\text{CFOCF}_2\text{OCF}_2\text{CF}_2\text{OCF}_3$  (A-IV).

33. (New) Thermoprocessable TFE copolymers obtained by polymerization of TFE with one or more monomers containing at least one unsaturation of ethylene type selected from the following:

- $\text{C}_3\text{-C}_8$  perfluoroolefins;
- $\text{C}_2\text{-C}_8$  hydrogenated fluoroolefins, selected from vinyl fluoride (VF), vinylidene fluoride (VDF), tri-fluoroethylene, hexafluoroisobutene and perfluoroalkylethylene  $\text{CH}_2=\text{CH-R}_f$ , wherein  $\text{R}_f$  is a  $\text{C}_1\text{-C}_6$  perfluoroalkyl;
- $\text{C}_2\text{-C}_8$  chloro- and/or bromo- and/or iodo-fluoroolefins;
- (per) fluoroalkylvinylethers (PAVE)  $\text{CF}_2=\text{CFOR}_f$ , wherein  $\text{R}_f$  is a  $\text{C}_1\text{-C}_6$  (per) fluoroalkyl;

- (per) fluoro-oxyalkylvinylethers  $\text{CF}_2=\text{CFOX}$ , wherein X is: a  $\text{C}_1\text{-C}_{12}$  alkyl, a  $\text{C}_1\text{-C}_{12}$  oxyalkyl, or a  $\text{C}_1\text{-C}_{12}$  (per) - fluoro oxyalkyl having one or more ether groups;
- fluorodioxoles;
- non conjugated dienes of the type:



wherein  $\text{X}^1$  and  $\text{X}^2$ , equal to or different from each other, are F,  $\text{C}_1$  or H;  $\text{X}^3$  and  $\text{X}^4$ , equal to or different from each other, are F or  $\text{CF}_3$ ,

which during the polymerization cyclopolymerize; and

- fluorovinylethers (MOVE) of general formula:

$\text{CFX}_{\text{AI}}=\text{CX}_{\text{AI}}\text{OCF}_2\text{OR}_{\text{AI}}$  (A-I) wherein  $\text{R}_{\text{AI}}$  is a  $\text{C}_2\text{-C}_6$  linear, branched or  $\text{C}_5\text{-C}_6$  cyclic (per)fluoroalkyl group, or a  $\text{C}_2\text{-C}_6$  linear, branched (per) fluoro oxyalkyl group, containing from one to three oxygen atoms; when  $\text{R}_{\text{AI}}$  is a fluoroalkyl or a fluoroxyalkyl group as above it can contain from 1 to 2 atoms, equal or different, selected from the following: H, Cl, Br, I;  $\text{X}_{\text{AI}} = \text{F}, \text{H}$

wherein the thermoprocessable TFE copolymers contain an amount of extractable cations lower than 1 ppm.